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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/758,538 | 01/11/2001 | Hans Heinle | 1-22914 | 9389 |

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| EXAMINER | |
|---|---|
| BURCH, MELODY M | |
| **ART UNIT** | **PAPER NUMBER** |
| 3683 | |

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) |
|---|---|---|
| | 09/758,538 | HEINLE ET AL. |
| | Examiner | Art Unit |
| | Melody M. Burch | 3683 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *21 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *12-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 January 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the embodiment of the drive including secondary temperature sensors operatively connected to a control unit that is rotatably arranged in a chamber of a drum using roller bearings as suggested by claims 18 and 19 and the embodiment including secondary temperature sensors operatively connected to a control unit comprising a piston and cylinder actuator as suggested by claim 20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Objections*

2. Claims 14-15 and 22 are objected to because of the following informalities: the phrase "the at least one second opening (30)" in claim 14 should be changed to "the at least one second opening (30), respectively"; element number "(39)" is used to designate the electronic circuit in line 2 of claim 22 but represents the control unit in claim 12. Claim 15 is objected to due to its dependency from claim 14. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 18-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The disclosure fails to provide support for the embodiment of the drive including secondary temperature sensors operatively connected to a control unit that is rotatably arranged in a chamber of a drum using roller bearings as suggested by claims

18 and 19 and the embodiment including secondary temperature sensors operatively connected to a control unit comprising a piston and cylinder actuator as suggested by claim 20.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 18-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claim 18. The phrase "the chamber" in line 3 is indefinite since it is unclear as to which chamber Applicant intends to refer to (the chamber of the drum or the working chamber).

The remaining claims are indefinite due to their dependency from claim 18.

### *Claim Rejections - 35 USC § 103*

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 12-17, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6220416 to Katoh et al. in view of US Patent 5957663 to Van Houten et al.

Re: claims 12, 14, 15, and 21. Katoh et al. show in figure 1 a drive for cooling fans in motor vehicles, the drive comprising: a primary cooling circuit or path directed to element 19 and the unnumbered fins including a primary cooler or unnumbered fins shown above and below element 19, a primary temperature sensor 19, at least two secondary coolers 7,8 located in respective secondary cooling circuits or the paths directed to elements 7 and 8, respectively, a fluid friction clutch including driving 15 and driven 21 clutch members and a reservoir 11 for a viscous fluid the reservoir being limited by a separating member 13 and being connectable to a working chamber 12 by at least one first opening 14 shown in figure 3 in the separating member, the working chamber extending into a region between the clutch members in which torque is transmitted from the driving clutch member to the driven clutch member by the viscous fluid, and wherein filling of the working chamber with the viscous fluid is controlled by a first control element 26a shown in figure 3 opening and closing the first opening in the separating member depending on the temperature of cooling air or cooled atmospheric air passing through the primary cooler sensed by the primary temperature sensor as disclosed in col. 6 lines 45-47, characterized in that one of the at least two secondary cooling circuits, particularly element 8, includes at least one secondary temperature sensor 8a shown in figure 8 (although the sensor is described as a pressure sensor, Examiner notes that the pressure sensor also functions as a temperature sensor by virtue of the directly proportional relationship between pressure and temperature discussed in col. 8 lines 51-55) being operatively connected to a control unit 30 arranged to control a second control element 32 shown in figure 3 wherein the

separating member comprises at least one second opening 23, the second control element being arranged in the working chamber, the control unit moving the second control element to open and close the at least one second opening by way of the cooperation with element 31 in accordance with the temperature sensed by one or more of the secondary sensors to control the filling of the working chamber with the viscous fluid, and wherein control of the second control element is independent of control of the first control element.

Katoh et al. do not include the limitation of *each* of the at least two secondary cooling circuits associated with the heat exchangers or secondary coolers 7,8 including a secondary temperature sensor operatively connected to the control unit.

Van Houten et al. teach in the figure on the front of the patent and in col. 5 lines 7-13 the use of two cooling circuits associated with heat exchangers 18 and 20 including respective temperature sensors 36 and 38, respectively, operatively connected to a control unit 30.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the secondary cooling circuits of Katoh et al. to each have included temperature sensors operatively connected to the control unit, as taught by Van Houten et al., in order to provide a means of setting the value of the desired voltage of an electric source powering the cooling fan based on temperature sensor outputs as taught by Van Houten et al.

Re: claim 13. See figure 3 of Katoh et al.

Re: claim 16. Katoh et al., as modified, teach in figure 1 of Katoh et al. the limitation wherein the control element is connected to the control unit by an actuation member 29.

Re: claim 17. Katoh et al., as modified, teach in figure 1 of Katoh et al. the limitation wherein the actuation member 29 extends through a concentric bore of a drive shaft 2 and the control unit 30 engages the actuation member extending from the drive shaft.

Re: claim 22. Katoh et al., as modified, teach in figure 8 of Katoh et al. the limitation wherein the magnet 30 is controlled by an electronic circuit 9a, the secondary temperature sensors forming part of the electronic circuit, and wherein the magnet is moved to open the at least one second opening if either one of the secondary temperature sensors detects a temperature above the predetermined switching temperature as disclosed in col. 8 lines 55-65 of Katoh et al.

9. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6220416 to Katoh et al. in view of Van Houten et al., as applied to claim 16 above, and further in view of US Patent 5381761 to Tanaka.

Katoh et al., as modified, describe the invention substantially as set forth above including a control unit arrangement, but do not include the limitation of the specific control unit arrangement as claimed.

Tanaka teaches in figure 1 the use of a similar drive for cooling fans in a motor vehicle including the limitation wherein a control unit 72,79,80 is rotatably arranged in a chambr of a drum 74 driving a drive shaft 25 and a working fluid flows through the

chamber to the same extent as Applicant's wherein the control unit is rotatably supported in the drum by a roller bearing 76 and wherein the control unit includes a piston 80 and cylinder 72 actuator, the piston being connected to the actuation member as shown in figure 1 wherein the piston includes first and second surfaces, the first or left surface being subjected to a force of a biasing element 86, and the second surface being subjected to a force generated by an element 78 which expands with rising temperatures to open an at least one second opening 61.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the control unit arrangement of Katoh et al., as modified, to have included a control unit arrangement, as taught by Tanaka, in order to provide an equally effective mechanical means (as opposed to an electromechanical means) of actuating a component to adjust the opening of a fluid supply port depending on manufacturing costs and device space requirements.

***Response to Arguments***

10. Applicant's arguments, see pg. 5-6, filed 7/21/05, with respect to the rejection(s) of the claim(s) under 35 USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Van Houten et al.

***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 571-272-7114. The examiner can normally be reached on Monday-Friday (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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September 26, 2005
Melody M. Burch
9/26/05